Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A device for navigating an instrument in a body volume that is subject to a spontaneous movement ~~that can be described by a movement parameter (E),~~ caused by heartbeats and respiration, the device comprising:

~~a)~~ a locating device for ~~measuring~~ obtaining a location ~~(r)~~ of the instrument, the instrument providing interpolation nodes;

~~b)~~ a sensor ~~device~~ for measuring ~~the~~ a movement parameter ~~(E)~~ describing the spontaneous movement of the body volume; ~~and~~

~~c)~~ ~~a data processing device coupled to the locating device and the sensor device, wherein the data processing device comprises~~ a movement model that describes, with respect to ~~a~~ at least one reference phase ~~(E₀)~~ of the ~~movement parameter~~ heartbeat, a spontaneous movement field or vectorial displacement ~~(Δ)~~ to which interpolation nodes of the body volume are subject ~~in~~ during the ~~various phases of the movement parameter (E), wherein with (i) the aid of~~ at least one reference phase; and

a data processing device coupled to the locating device and the sensor for using the movement model, ~~(ii) a current measured~~ the location ~~(r)~~ and ~~(iii) an associated current~~ the movement parameter~~, the data processing device calculates~~ to calculate an estimated movement-compensated location ~~(r + Δ),~~ corresponding to the ~~current measured~~ location

(r) plus and the vectorial displacement (Δ), of the instrument that the instrument would have in during the at least one reference phase (E₀) of the spontaneous movement field.

2. (Currently amended) The device as claimed in claim 1, wherein the data processing device is designed to reconstruct reconstructs the movement model from measured values for using the location of interpolation nodes and associated movement parameters (E).

3. (Currently amended) The device as claimed in claim 2, further wherein the data processing device is designed to supplement the measured supplements the movement of the interpolation nodes in the movement model by interpolation.

4. (Currently amended) The device as claimed in claim 2, further wherein the data processing device is designed to determine measured values for determines the location of interpolation nodes from a series plurality of three-dimensional images of the body volume, wherein the series of three-dimensional images are obtained from at least one of X-ray, CT and MRI recordings.

5. (Currently amended) The device as claimed in claim 2, wherein the measured values for the location of the interpolation nodes of the body volume correspond to the locations (r), measured obtained with the locating device, of the instrument.

6. (Currently amended) The device as claimed in claim 5, wherein the ~~measured~~ locations ~~(r) of the instrument~~ are obtained without moving the instrument relative to the body volume.

7. (Currently amended) The device as claimed in claim 1, ~~further~~ wherein the data processing device comprises a memory ~~containing~~ having a static image of the body volume and ~~is designed to determine~~ determines the estimated movement-compensated location ~~(r + Δ), for the reference phase (E₀),~~ of the instrument in the static image during the at least one phase.

8. (Currently amended) The device as claimed in claim 1, wherein the sensor ~~device~~ comprises an ECG apparatus and/or an apparatus for determining the respiration phase.

9. (Currently amended) The device as claimed in claim 1, wherein the locating device ~~is~~ ~~designed to determine~~ determines the location of the instrument ~~with the aid of~~ using magnetic fields and/or ~~with the aid of~~ optical methods.

10. (Currently amended) A method of navigating an instrument in a body volume that is subject to a spontaneous movement ~~that can be described by a movement parameter (E)~~ caused by the heartbeats and the respiration, the method comprising acts of:

a)   ~~measuring~~ obtaining a location of interpolation nodes of the body volume, the interpolation nodes are provided by the instrument;

~~and associated~~ measuring a movement ~~parameters (E) in different phases of~~ parameter describing the spontaneous movement of the body volume;

b) ~~reconstructing a movement model for the body volume from said measured values of the location of interpolation nodes and associated movement parameters, wherein the~~ providing a movement model that describes, with respect to ~~a~~ at least one reference phase ~~(E₀)~~ of the ~~movement parameter~~ heartbeat, a spontaneous movement field or vectorial displacement ~~(Δ)~~ to which interpolation nodes of the body volume are subject ~~in~~ during the ~~various phases~~ at least one reference phase of the ~~movement parameter (E)~~ heartbeat;

c) ~~measuring a location (r) of the instrument and an associated movement parameter (E); and~~

d) ~~calculating, with the aid of (i)~~ using the movement model, ~~(ii) a current measured~~ the location and ~~(iii) an associated current~~ the movement parameter, to calculate an estimated movement-compensated position ~~(r + Δ),~~ corresponding to the ~~current measured~~ location ~~(r) plus~~ and the vectorial displacement ~~(Δ),~~ of the instrument ~~in~~ during the at least one reference phase ~~(E₀) of the spontaneous movement field~~.